

Interpretation Number: 1-03/01 - Item 1 part a
Topic: Acknowledge bit
Relevant Clauses: 28.2.1.2.4
Classification: Unambiguous

Interpretation Request

Section 28.2.1.2.4 of the IEEE Std 802.3, 1998 Edition Request for clarification of penultimate sentence of this section. The sentence is shown below:

"In order to save the current received Link Code Word, this must be read from the Auto-Negotiation link partner ability register (Register 6) before the Next Page of transmit information is loaded into the Auto-Negotiation Next Page register."

In this sentence, the word "this" refers to what?

Interpretation for IEEE std 802.3-2000

The standard states "In order to save the current received Link Code Word, this must be read from the Auto-Negotiation link partner ability register ". In addition subclause '28.2.4.1.4 Auto-Negotiation link partner ability register' states 'The bit definitions shall be a direct representation of the received Link Code Word (Figure 28 –7).' hence "this" refers to the current received Link Code Word.

Interpretation Number: 1-03/01 - Item 1 part b
Topic: Acknowledge bit
Relevant Clauses: 28.2.1.2.4
Classification: Defect

Interpretation Request

In this sentence, the "Auto-Negotiation link partner ability register" contradicts "(Register 6)".

Interpretation for IEEE std 802.3-2000

The correct register for Auto-Negotiation Link Partner Ability would be Register 5. There is a further conflict when receiving next pages as Clauses 32 and 40 define Register 8 for next pages while Clause 28 stores them in Register 5.

A change request will be generated to resolve the conflicts and placed in the next maintenance ballot.

Interpretation Number: 1-03/01 - Item 1 part c
Topic: Auto-Negotiation Link Partner Ability and Next Page register
Relevant Clauses: 28.2.1.2.4
Classification: Unambiguous

Interpretation Request

In this sentence, why does the saving or reading of the Auto-Negotiation link partner ability register relate to the loading of data into the Auto-Negotiation Next Page register?

Why must the Auto-Negotiation link partner ability register be read before loading of the Auto-Negotiation Next Page Register?

Interpretation for IEEE std 802.3-2000

Loading the Auto-Negotiation Next Page register controls the setting of the `mr_next_page_loaded` variable as clearly stated in Table 28–8 ‘State diagram variable to MII register mapping.’ Once this variable is set, provided receipt of Link Code Words that cause “`ability_match=true`” *
((`toggle_rx^rx_link_code_word[12]`)=1”, and “`acknowledge_match=true`” *
`consistency_match=true`”, then the value stored in the Auto-Negotiation link partner ability register would be overwritten with the newly received Link Code Word value. Thus, if the Auto-Negotiation link partner ability register is not read prior to writing the Auto-Negotiation Next Page register, then the received Link Code Word could be lost.

Interpretation Number: 1-03/01 - Item 1 part d
Topic: Auto-Negotiation Link Partner Ability and Next Page register
Relevant Clauses: 28.2.1.2.4
Classification: Unambiguous

Interpretation Request

How does the acknowledge bit discussed in this section (28.2.1.2.4) relate to the reading and loading of these registers?

Interpretation for IEEE std 802.3-2000

The issues discussed pertain to Next Page transmission. As such, a device should be in the COMPLETE_ACKNOWLEDGE state of Figure 28-16 (Arbitration state diagram) until the Auto-Negotiation Next Page register is loaded (setting `mr_next_page_loaded`). In this state, the device should be sending `tx_link_code_word` with the ACK bit set. This is clearly stated in the third to last sentence of subclause 28.2.1.2.4 “If Next Page information is to be sent, this bit shall be set to logic one after the device has successfully received at least three consecutive and matching FLP Bursts (ignoring the Acknowledge bit value), and will remain set until the Next Page information has been loaded into the Auto-Negotiation Next Page register (Register 7)”

Interpretation Number: 1-03/01 - Item 2
Topic: Auto-Negotiation registers 6 and 8
Relevant Clauses: 28 and 32
Classification: Defect

Interpretation Request

How does the acknowledge bit discussed in this section (28.2.1.2.4) relate to the reading and loading of these registers?

Interpretation for IEEE std 802.3-2000

This represents a conflict within the standard. Change requests have been generated by Bob Noseworthy of the Interoperability Lab at the University of New Hampshire available at the URL: -

<http://www.ieee802.org/3/maint/requests/all.html>

which relate to the conflict. These change requests will be included in the next maintenance ballot.